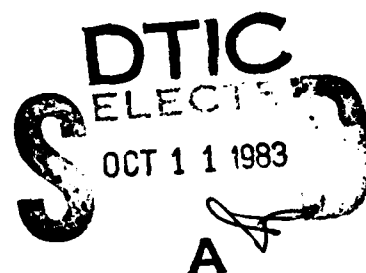
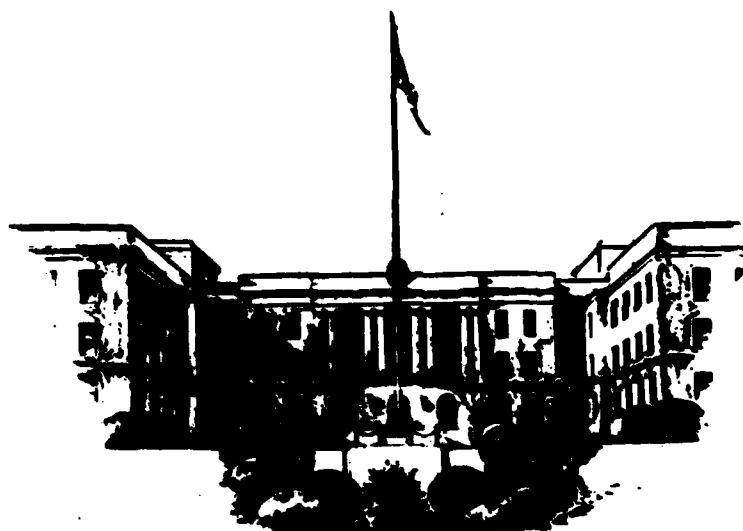


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Israeli Battle Shock Casualties :
1973 and 1982

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DIVISION OF NEUROPSYCHIATRY

Walter Reed Army Institute of Research

Washington, D. C. 20307

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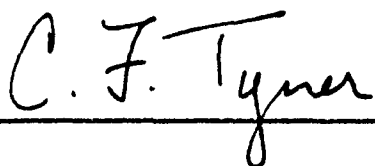


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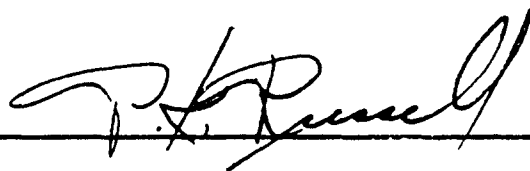
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ISRAELI BATTLE SHOCK CASUALTIES: 1973 AND 1982

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PREFACE

This paper is one of a series of occasional, informal accounts of work in the Division of Neuropsychiatry at the Walter Reed Army Institute of Research. The reports generally address topics in Army preventive medicine for which implementation responsibility lies significantly outside the Medical Department. Although their contents may overlap partly with our publications in the scientific literature, most papers are based on trip reports, briefings, and consultations involving specific Army audiences. Comments to the senior author are welcome.

This work was supported by Research Area III -- Health Hazards of Military Systems and Combat Operations -- of the U.S. Army Medical Research and Development Command; MG Garrison Rapmund, Commanding.

This report is based on four visits to Israel: June 1978, June 1982, January 1983, and April 1983. The material is taken from presentations by the Israelis during the Second and Third International Conferences on Psychological Stress and Adjustment in Time of War and Peace (1978, 1983) and from discussions with psychologists and psychiatrists of the Israeli Defense Force (IDF).



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73	74
75	76
77	78
79	80
81	82
83	84
85	86
87	88
89	90
91	92
93	94
95	96
97	98
99	100

CONTENTS

INTRODUCTION	1
BATTLE SHOCK CASUALTIES DURING THE 1973 ARAB-ISRAELI WAR	1
Casualty Generation	1
Treatment and Outcome	2
Post-War Analyses	2
Plans for the Future	8
Summary	9
BATTLE SHOCK CASUALTIES DURING THE 1982 WAR IN LEBANON	10
Casualty Generation	10
Treatment and Outcome	12
Post-War Analyses	18
SUMMARY AND CONCLUSIONS	23
TABLES	25
REFERENCES	36

INTRODUCTION

Psychiatric casualties are a large source of manpower loss in modern warfare. They were first well described in the beginning of this century. Since then, much has been learned about the nature, prevention, and treatment of psychiatric casualties from anecdotal accounts, from trial and error clinical treatment, and from both retrospective and prospective studies. The formula of prevention based on good morale, treatment based on immediate attention near the front, and rapid return to combat duty, is a useful distillation of the experiences of the past. This may suggest, incorrectly, that everything needed is known about the nature, prevention, and treatment of combat psychiatric casualties. As conflicts become shorter, more intense, and more fluid, however, psychiatric casualties emerge more rapidly, appearing within hours after the beginning of hostilities. Treating psychiatric casualties near the front and returning them to duty becomes more difficult. The importance of combat psychiatry, while remembered in principle, tends to be forgotten in the practical business of planning for possible future wars.

The experiences of the Israelis during the 1973 Arab-Israeli War and the 1982 war in Lebanon have confirmed the basic principles of combat psychiatry. In addition, new information has emerged which refines these principles and suggests important, unanswered questions on the nature, treatment, and prevention of combat psychiatric casualties.

BATTLE SHOCK CASUALTIES DURING THE 1973 ARAB-ISRAELI WAR

Casualty Generation

The 1973 Arab-Israeli War was short and intense. It lasted approximately 4 weeks, caused heavy casualties, consumed vast quantities of military materiel, and in its early phases was fought twenty-four hours a day. Battles were mobile and fluid, with armor, infantry, artillery, and air support attempting to work in close coordination. The Israelis were taken by surprise, nearly overrun by sheer numbers of men and masses of equipment, and initially

forced to retreat. Even as they were retreating, the Israelis fought resourcefully and tenaciously with great tactical flexibility and personal initiative. Due in part to the inflexibility of their adversaries, the Israelis were able to mobilize their reserves, gain tactical initiative, and exploit it to regain their original positions.

The Israeli Defense Force (IDF) suffered a relatively high rate of psychiatric casualties (termed "battle shock" casualties in this paper) during the 1973 war. Psychiatric casualties in battle are generally expressed as a ratio of the psychiatric casualties to the wounded in action. Immediately after the 1973 war, the ratio of psychiatric casualties to wounded in action (WIA) was given officially as 14:100 or 12.5% of all non-fatal casualties. Upon reexamination, however, the Israelis found this figure low: the actual ratio was approximately 30:100, or 23% of all non-fatal casualties (Noy, personal communication). The revised figure includes those formally recorded as battle shock (the originally reported 12.5% of casualties), those not formally so recorded but nevertheless suffering from battle shock, some late reactions, and battle shock in the wounded.

Treatment and Outcome

The 1973 war was the first in which the Israelis sustained significant numbers of battle shock casualties. In prior wars, the number of such casualties had been low, treatment informal, and hence, at the time of the 1973 war, no formal doctrinal or organizational provisions had been made for the treatment of battle shock. As a result, during the 1973 war, all battle shock casualties were evacuated to the rear. Most were treated in civilian hospitals. Only a few returned to combat duty during the war. For many, recovery was slow and disability prolonged.

Post-War Analyses

The Israelis were stunned by the suddenness and intensity of the attack and by the number of physical and psychiatric casualties sustained in the 1973 war. The conflict was described by the IDF Surgeon General as a demographic disaster for Israel, because so many capable people were killed (Dolev, personal communication). The

number of battle shock casualties was high relative to the experience of the IDF in prior wars. Following the war, in cooperation with Israeli academic institutions, the IDF subjected itself to intense scrutiny. It was hampered by a lack of systematic record keeping during the war as a result of which valuable information was lost. Nevertheless, the results of this self-scrutiny led to the development of doctrine for treating battle shock casualties and for collecting better combat data. These were subsequently applied during the 1982 war in Lebanon.

Casualty Classification. The Israelis reviewed the literature on combat psychiatry and combined their own observations from the war with those of others from previous wars into a coherent clinical picture of combat psychiatric casualties (Noy 1978a). They drew a distinction between battle shock ("combat reaction" in Israeli terminology) and battle fatigue. Battle shock -- defined as a simple emotional reaction to the stress of battle -- developed after hours or days of intense combat. In contrast, battle fatigue developed after weeks or months of moderate combat. In the 1973 war and later in the 1982 war in Lebanon (see below), psychiatric casualties took the form of battle shock. Battle shock progressed through three stages. The first or immediate stage lasted hours to days and was characterized by anxiety, depression, and fear. The majority of soldiers with battle shock recovered during the immediate stage. Those who did not recover passed into the second, or acute stage, which was characterized by the emergence of neurotic symptoms consistent with the soldier's pre-war personality. This stage lasted for days to weeks and recovery was still likely. If treatment in the acute stage failed, the soldier passed into the third, or chronic stage which was characterized by personality impoverishment and chronic psychiatric disability. This stage was of extended duration and recovery was slow and often incomplete.

Delayed Battle Shock. In the 1973 war, the Israelis observed a new form of battle psychiatric casualty: delayed battle shock (Baruch, personal communication). Some soldiers who had done well during intense fighting broke down upon receiving their first telephone call from home, or broke down when home on their first leave. Delayed battle shock also emerged in another form. This other form occurred on the Suez front. Battle shock casualties on this front were evacuated initially to military hospitals in the middle of the Sinai. There, soldiers suffering battle shock rested for 2-3 days, recovered, and were ready to

return to duty. However, because no provision had been made to return them to their units, the men were then further evacuated to Tel Aviv or Jerusalem. These soldiers frequently suffered second, more serious, decompensations during the latter evacuation (Noy, personal communication).

Battlefield Factors. The Israelis observed that the intensity of fighting, more so than its duration, produced battle shock. Battle shock cases were numerous during the first hours and days of the 1973 war; and highest during the crossing of the Suez Canal when indirect fire (artillery and rockets) was the most intense. When intensity was extreme, battle shock emerged before the onset of significant fatigue or sleep deprivation. Parenthetically, even under the most severe battle conditions, Israeli soldiers appeared to manage 3-4 hours sleep in every 24. The risk of battle shock, in addition to varying with battle intensity, varied, in combat units, with the soldier's combat role. Battle shock was most prevalent in armored units, intermediately prevalent in artillery units, and least prevalent in infantry units. The high prevalence in armored units was probably a result of their being engaged in the most intense combat. Overall, reservists were more vulnerable than active service soldiers; and soldiers from support units were more vulnerable than combat troops. Thus, battle intensity, primarily, and the soldier's battle role, secondarily, were the factors related to battle shock.

Pre-War Factors. The Israelis conducted a retrospective examination of 40 IDF soldiers who suffered battle shock during the 1973 war (Noy 1978b). Each had received treatment during the acute stage of the syndrome. With regard to completeness of recovery, as of a year or two after the war, 45% had no difficulties, 31% had some difficulties, 21% had many difficulties, and 3% had severe difficulties. Thirty-five percent of the men with battle shock had been seriously wounded. In 70% of this wounded group, the physical injury was a direct cause of the battle shock. Forty percent of the men with battle shock reported minimal group cohesion and unit identification and a high incidence of interpersonal difficulties with members of their unit, contrasted with 10% in a control group of men not suffering battle shock. Prior or ongoing civil stresses were found in 80% of the cases of battle shock. Fifty percent of the battle shock cases had wives who were pregnant, or who had given birth within the year preceeding the war. In 23% of the cases, there had been a recent death in the immediate family. Other apparently relevant

civil stresses were being newly married, taking on a mortgage, having sick parents, or sustaining a serious personal loss.

In contrast to their role in causing battle shock, neither the presence nor the severity of combat or civilian stresses bore any relationship to likelihood of recovery (Noy 1978b). There was, however, a significant correlation between the likelihood for recovery and the soldier's personality. For the purposes of the study, each soldier was classified as having a stable, a transitional, or a repressed personality. Well adjusted men in untroubled life circumstances were classified as stable. Men facing developmental crises, generally in their late teens or late 30's and early 40's, were classified as transitional. Men who dealt with anger or anxiety with repression, and denied having felt anger at any time in their adult lives (self-reports confirmed through interviews with their families), were classified as emotionally repressed. As civilians, those with repressed personalities lived in communities containing large numbers of transient persons, communities in which there was significant personal and group maladjustment. These soldiers with repressed personalities had the poorest prognosis for recovery among the three personality groupings. Those with transitional personalities had a somewhat better prognosis. Those with stable personalities had the best prognosis and generally recovered from the acute stage (Noy 1978b).

The above study concluded that interpersonal difficulties within the unit and prior or ongoing civil stresses modulated the potency of battle stresses in generating battle shock. Soldiers who lacked cohesive bonds with comrades, or who had stressful home situations (for reasons ranging from recent births to recent deaths), were more vulnerable to battle shock. Personality type was not a predictor of becoming a psychiatric casualty. Once breakdown occurred, however, soldiers with better adjusted personalities were more likely to recover.

The Israelis also did a retrospective comparison of morale factors and social supports, both military and civilian, between soldiers who suffered battle shock and those who emerged from intense battle psychiatrically unscathed (Steiner and Neuman 1978). In contrast to the unscathed group, the men who suffered battle shock reported low morale, characterized by little or no identification with their unit or team, no trust in their leadership,

frequent transfer and rotation, feelings of loneliness and of not belonging to their unit, and finally, low self esteem regarding their military performance. It appeared that all of the above factors contributed to the development of battle shock. In contrast, high morale characterized by positive social support, group identification, stability of assignment, and high regard for one's work appeared to protect against battle shock even during intense fighting.

Treatment in Prior Wars. The Israelis found two treatments for battle shock described in the combat psychiatry literature. One consisted of rest and supportive psychotherapy at or near the front and a rapid return to combat duty. Supportive psychotherapy entails a brief recounting of events by the patient, coupled with reassurance from the therapist. The second treatment consisted of releasing tension and suppressed emotions through extensive conscious examination and by reliving the combat trauma in imagination, words, or action. In psychoanalytic terms, this latter treatment is called abreaction. The method of a brief rest and return to duty has been used near the front in military medical units. The method of abreaction has been used in rear areas in civilian hospitals. Until the Israeli review, no attempt had been made to integrate these two techniques and to provide differential indications for their use (Noy 1978a). The Israeli review suggested that rest and support near the front, and abreaction in the rear were appropriate therapy for different stages of battle shock. Accordingly, rest and supportive psychotherapy with rapid return to combat duty were concluded to be the treatment of choice for the immediate stage of battle shock; but if this treatment were to fail, and the person were to pass into the acute stage, then evacuation to the rear and abreaction would be indicated.

Israeli Civilian Treatment. Most 1973 battle shock casualties, whether they broke down at the front, on the way home, or at home, were treated in civilian hospitals. Treatment in a civilian hospital clearly promoted disability: soldiers on the verge of coping were undermined by the acceptance, pity, and empathy of the civilian hospital staff. These observations underscored the value of prompt, brief treatment near the front and rapid return to duty.

Heroism. The Israelis analyzed the situational and personal variables associated with heroic behavior (Gal 1978). They found no personality type prone to heroism.

Rather, they found that certain situations invariably called forth heroic behavior. Aspects of these hero-producing situations were good morale (as indicated by the presence of good leadership and strong unit cohesion) and intense combat stress. They studied 72 soldiers who received medals for valor during the 1973 Arab-Israeli War. These soldiers were compared to a control group matched by unit and rank on a variety of measures of personality, performance, and cognitive ability. In turn, each heroic act was studied for the presence or absence of a number of variables: isolation, being in command, commander present, saving the wounded, type of battle, heroic act as the result of an explicit command, being surrounded, few against many, and saving the lives of others.

Analysis of the personal characteristics of the medal recipients revealed age as the characteristic most readily distinguishing the heroes from the non-heroes: the heroes were younger. Associated findings were that the heroes were less often married, and if married less likely to have children. The heroes also showed higher intelligence, motivation, overall rating on personality factors, and higher army course scores. There were no differences in educational achievement or physical fitness.

Analysis of the situational factors revealed four clusters of situational variables associated with heroic acts. In the first cluster, the men were surrounded, outnumbered, defending, and retreating. They were acting together when the heroic act was performed. The commander was the hero, or the commander was present; the heroic act occurred while breaking out of an encirclement. In the second cluster, the men were in a face-to-face battle and the hero was saving the lives of the wounded. The commander was absent and the hero was psychologically isolated from his comrades. The hero remained alive while saving others. In the third cluster, the men were a few against the many. It was the hero's regular unit and he died saving the lives of his friends. The fourth cluster found the hero alone, fighting in an offensive battle to the last bullet. He was not under clear orders. He was not fighting to save himself or others. He died alone. Ten to twenty cases fit into each cluster. The clusters accounted for approximately two-thirds of the cases of heroism. The remaining cases were sufficiently unique that common situational factors did not emerge.

The Israelis concluded that heroes were not clearly distinguishable from non-heroes. They fell generally into the upper quartile of overall scores and test results. The heroes were generally officers or noncommissioned officers who had good, but not perfect military records. Most had shown some resistance to military authority in the form of being absent without leave, or being disciplined for breaches of military regulations, at some point in their military service. The Israelis concluded that there was no specific personality associated with being a medal recipient, and that with regard to personality "we all are at risk for heroism" (Gal 1978).

The results of the above study show that heroes are not unique. The study suggests that there are certain characteristic situations which call forth heroism. In all these situations, the heroes were involved in intense combat. In the first three of the four situational clusters, and perhaps in the fourth, key situational factors were good leadership and strong unit cohesion. Heroic soldiers were not the most obedient; some resistance to military authority appeared to foster heroic behavior. Overall, the study demonstrates that high morale as indicated by strong unit cohesion and good unit leadership calls forth the best from soldiers in combat.

Conclusions. The studies undertaken by the Israelis following the 1973 war show that battle shock can emerge very quickly if fighting is sufficiently intense; that delayed battle shock can be a significant problem; that low morale and prior or ongoing civilian stress, particularly family turmoil, can predispose to becoming a battle shock casualty; that forward treatment is likely to be more successful than rear or civilian treatment; and that morale factors such as small unit leadership and cohesion are important in maximizing performance in battle as well as in minimizing psychiatric casualties.

Plans for the Future

On the basis of the analyses of their experience in 1973, the Israelis adopted the U.S. doctrine for treating combat psychiatric casualties: a brief rest near the front with rapid return to the unit. They delineated the following principles: hold and treat briefly battle shock cases as far forward as possible. Evacuate by ground ambulance, and not by helicopter, to ensure local evacuation and to

maintain psychological proximity to the front. Organize in advance for the holding, treating, and returning to duty of battle shock cases. Inform unit commanders to expect battle shock casualties and to expect these casualties to return to the unit after brief treatment. Minimize battle shock casualties by ensuring good morale -- specifically good unit cohesion and strong leadership -- and ensuring stable family and community life. If immediate treatment near the front is unsuccessful and further evacuation is required, maximize the chance of eventual recovery and minimize the risk of chronic disability by evacuating to convalescent camps where military discipline is maintained. And finally, plan for accurate and relevant record keeping during wartime so that information can be gathered and later evaluated.

The IDF instituted several relevant organizational changes after the 1973 war. A psychiatric team was assigned to each medical battalion at the division level. This team was to provide the first echelon of treatment for battle shock. The team would hold battle shock casualties for 24 to 72 hours. A second echelon of treatment was planned to be located in military camps in Israel, away from civilian hospitals. The soldiers treated there were to wear uniforms and to conform to military discipline. Activities were to include military drill, abreactive therapy, and sports. Maximum stay was to be two weeks. These camps were to provide strong expectation of return to duty, to avoid the demoralizing effects of a permissive civilian environment, and to provide therapy in the form of abreaction. The Israelis also planned to train their psychiatrists and psychologists -- the bulk of whom were reservists -- to treat battle shock by means of brief forward treatment.

Summary

The 1973 Arab-Israeli War was the first war in which the Israelis sustained psychiatric casualties in significant numbers. These casualties emerged in the first hours and days of the fighting and where the battle was most intense. The casualties took the form of battle shock rather than battle fatigue. The Israelis were unprepared to treat these casualties. All were evacuated to the rear; many were treated in civilian hospitals; many became chronically disabled. On the basis of their experience, combined with their review of the literature, the Israelis

planned future use of the U.S. doctrine for treating battle shock: a brief rest near the front with a rapid return to the combat unit. During the war in Lebanon in 1982 these plans were put to the test.

BATTLE SHOCK CASUALTIES DURING THE 1982 WAR IN LEBANON

Casualty Generation

The 1982 war in Lebanon differed qualitatively and quantitatively from the 1973 Arab-Israeli War. The 1982 conflict was fought at the time and in the manner chosen by the Israelis. It was fought on one front. Israeli preparation was thorough. The war engaged only a portion of the IDF, and did not stress its logistic support. Reserve medical personnel, including mental health officers, received training in IDF medical doctrine and field operations prior to the war. Mental health officers were trained in the doctrine of forward treatment of battle shock casualties and practiced the application of this doctrine in medical field exercises.

For the war in Lebanon, the IDF planned three axes of northward advance -- western, along the coastal plain, central, along the spine of the Lebanon Mountains, and, if the Syrians intervened, eastern, up through the Bekaa Valley. The Syrians did engage, and the IDF fought along all three axes. The advance along the coastal plain presented the problems of military operations in urban terrain, and the advance along the spine of the Lebanon mountains and up through the Bekaa presented the problems of military operations in mountainous and broken terrain. These military operations were conducted from 6 June 1982 until the cease fire at noon on 11 June 1982. There was a further period of fighting from 21-26 June 1982, when the IDF cut the Beirut-Damascus Road. Most of the IDF casualties, including the psychiatric casualties, were sustained during these two periods of active fighting.

Despite the excellent preparation by the IDF, the war was hard fought. The Palestine Liberation Organization (PLO) units, fighting in the built-up urban areas along the coastal plain, evaded IDF envelopments, fought retrograde

actions along the western axis, and retreated with the bulk of their personnel to Beirut. The Syrian commandos in the Lebanon Mountains, supported by regular Syrian forces, blocked the IDF advance along the central axis. Syrian armored forces in the Bekaa, while sustaining heavy casualties themselves, slowed the IDF advance along the eastern axis, and caused many Israeli casualties.

During the period of June-December 1982, the IDF suffered 2600 wounded and 465 killed in Lebanon (Dolev, personal communication; Table 1). Of the wounded, 80% were evacuated past the Advanced Medical Battalion (AMB) to Israel proper. These casualties were treated in Israeli civilian hospitals. Their injuries were not necessarily severe, but in the IDF Medical Corps there is a predilection for rapid rearward evacuation -- preferably by air -- of even minor casualties to enhance the mobility of the forward medical units. This predilection for rapid rearward evacuation increased the difficulty of holding and treating psychiatric casualties forward within the division area.

During the period of June-December 1982, the IDF sustained 600 psychiatric casualties (Shipler 1983; Table 2). This figure includes battle shock (i.e. pure emotional reaction to the stress of battle); mixed syndromes (i.e. emotional reaction to the stress of battle combined with an underlying personality disorder); delayed psychiatric casualties (i.e. emotional reaction to the stress of battle and mixed syndromes following demobilization or while home on pass); and battle shock and mixed syndromes in the wounded. Overall, the bulk of the cases were battle shock. For the IDF in Lebanon, the psychiatric casualty to wounded ratio was 23:100 (in actual numbers 600:2600). During the 1973 war, the ratio was higher, approximately 30:100. It appears that for an equivalent degree of combat stress, as indicated by the relative number of wounded, psychiatric casualties were lower during the 1982 war in Lebanon than during the 1973 Arab-Israeli War.

Ten percent of all psychiatric casualties occurred among wounded soldiers (Noy, personal communication; Table 2). Psychiatric disturbances were found in both the lightly and seriously wounded. The brevity of the intense fighting in Lebanon and the rotation of soldiers out of combat after one or two battles may account for this. In the 1982 war, a wounded soldier was not much more rapidly removed from the combat zone than a non-wounded soldier:

all IDF soldiers in Lebanon were "short timers."

In addition to the psychiatric casualties at the front, psychiatric breakdown occurred in men who had been demobilized or who were home on leave (Noy, personal communication). It is customary, tactical situation permitting, to rapidly demobilize, or at least to give 48 hours home leave, to units recently engaged in difficult actions. During the fighting in Lebanon, a number of units were demobilized or received passes in this manner. Some soldiers, following demobilization or while home on pass, broke down and became psychiatric casualties. Their symptoms and signs were repetitive thoughts and images of the war, and crying, loss of appetite, and sleeplessness. The soldiers were unable to account for these except, in a general way, to relate them to the war. They were referred for treatment to the IDF Mental Health Clinic in central Israel. The soldiers' descriptions of their experiences in Lebanon invariably revealed traumatic events or sequences of traumatic events preceding the emotional turmoil. In the opinion of IDF psychiatrists and psychologists, these soldiers' emotional reactions would have been less severe had they remained with their units in Lebanon (Noy, personal communication). In their view, rapid demobilization and passes weakened soldiers' supportive ties with their units, reduced their ability to cope with their combat experiences, and thereby created psychiatric casualties of soldiers who would not otherwise have broken down. Since the majority of these soldiers were sent home because their entire unit had been demobilized, IDF mental health personnel rejected the idea that the soldiers were primarily those sent home because their commanders recognized in them the signs of incipient breakdown or that the symptoms and signs developed because the soldiers were afraid to return to the front. There were many such cases of delayed psychiatric breakdown seen at the IDF Central Mental Health Clinic.

Treatment and Outcome

Casualty Classification. The clinical symptoms reported by psychiatric casualties in Lebanon were similar to those reported by U.S. forces in World War I, World War II, and the Korean War, and by Israeli forces during the 1973 war, but different from those reported by U.S. forces in Vietnam (Bar-On et al. 1983; Tables 3 and 4). Pure battle shock was characterized by anxiety, depression, sleep

disturbance, and fear. Battle shock casualties appeared in the first few days of combat and cases continued to emerge as the fighting continued. In most cases, the soldiers who broke down had been engaged in heavy fighting and had gone without sleep for two or more days. Cases were more numerous where the fighting was intense and the physical casualties high. Tactical errors by commanders, being ambushed, or being hit by friendly fire increased the incidence of battle shock. Immediately preceding events were intense combat, seeing friends or one's own commander wounded or killed, and one's own close escape from death.

Treatment Plans. Following the 1973 war, the IDF adopted the U.S. principles of forward treatment for psychiatric casualties. Prior to the war in Lebanon, the IDF Mental Health Department planned to treat psychiatric casualties forward at the level of the Advanced Medical Battalion (AMB). Each AMB supports a division and is located from 2 to 20 kilometers to the rear of the fighting. The IDF had conducted education and training, including field exercises, for the forward mental health teams. Each five-member team consisted of one psychiatrist, one psychologist, and three other mental health officers, either psychologists or social workers. According to IDF plans, psychiatric casualties were to be seen first at the battalion aid station, and, if they required more than an hour or two of rest, then they were to be evacuated by ground ambulance to the AMB. There, the forward mental health treatment team would hold casualties 48 to 72 hours before either returning them to their units or, if they were unimproved, evacuating them further rearward. The treatment was to consist of physical replenishment (water, food, and sleep) and supportive individual and group psychotherapy. The psychiatric casualties were to be treated as soldiers, made responsible for their own maintenance, and required to keep their personal weapons.

Realization. Many cases of battle shock were sufficiently mild to be treated with an hour or two of rest at the battalion aid station and then to be returned to their units. No records were kept of these cases, and so they are not included in the statistics in this paper. The remaining cases were evacuated beyond the battalion aid station, entered into the statistical records, and treated either forward at the AMB or rearward in Israel, as will be described below.

Despite the plan for forward treatment, not all psychi-

atric casualties were treated close to the front. Some were treated in central and northern Israel. This was due to a lack of awareness on the part of battalion surgeons of the importance of forward treatment and to the general pressure they exerted for rapid rearward evacuation, and to the tactical situation in Lebanon where the military traffic moving forward along narrow roads through steep-walled valleys made local ground evacuation difficult. Evacuation from the battalion aid station for both the wounded and the psychiatric casualties was therefore frequently by helicopter. Once on board a helicopter, casualties were flown directly back to civilian hospitals in Israel, bypassing the AMB. Psychiatric casualties were evacuated with the wounded, by ground or air -- if by ground then to the AMB, if by air then to Israel. Approximately half of the psychiatric casualties reached the AMB, while half reached civilian hospitals in Israel. This assignment to air or ground evacuation was random. The IDF quickly realized that psychiatric casualties were arriving at civilian hospitals and a second echelon treatment facility was put into operation in northern Israel. Treatment teams there were organized to provide brief treatment similar to that used forward. Thus, the treatment of psychiatric casualties offered a comparison of the effectiveness of forward and rearward treatments (Noy, Solomon, and Benbenishti 1983; Table 5).

The doctrine of forward treatment applied by the IDF for the first time during the war in Lebanon proved effective. A few aggressive teams returned 95% of battle shock cases to duty with their units (Enoch et al. 1983; Noy, personal communication). The method of one of the teams is representative (Enoch et al. 1983). Initially, this team would conduct an interview to establish where the soldier had been, what he had done, and what had happened to him. This interview was oriented objectively rather than toward thoughts and feelings. The team confirmed two of the observations made in previous wars. First, thoughts and feelings inevitably followed the description of the objective events. Second, just describing what had happened clarified events and reduced the emotional turmoil. The team would allocate the next 6-8 hours of treatment to physical replenishment (water, food, and rest). Then the soldier was given useful tasks to do and invited to join in supportive individual and group psychotherapy. Next, the team arranged for comrades from the soldier's unit and for the unit commander to visit the soldier. Then the soldier himself was taken to visit the unit. In these ways, mutual confidence between the soldier and his unit was

restored. When the soldier had recovered enough to return to the unit, the team would arrange for comrades from his unit to pick him up. This team took advantage of its proximity to the front and the soldier's unit to maximize expectation that he would return and to reinforce the soldier's links to his comrades and commander. The team observed that units were happy to receive the soldier back, confirming the finding from other sources that under stress group members prefer someone they know to someone they do not know, regardless of presumed competence. With respect to themselves, the members of the psychiatric team noted that, because of their proximity to the front, they were all afraid. However, sharing the dangers of combat with the soldiers being treated reduced their reluctance to return a soldier to his unit. They noted that their fear was diminished to the degree that the AMB commander was competent in ensuring their supplies of gasoline and other essentials. When this was not the case, they became more afraid, hoarded supplies, and saw their clinical effectiveness decline. The team observed their tendency to over-identify with the soldier they were treating; to want to be the "good father", and to protect their new found "son" from harm. This difficulty was reduced through once-a-day staff meetings for the purpose of discussing cases, providing mutual support, and working through emotional conflicts (Enoch et al. 1983).

The Israelis observed that the psychiatric symptoms changed from the time the soldier broke down at the front to the time he arrived at the AMB (Bar-On et al. 1983). At the front most soldiers suffering psychiatric breakdown complained of inability to perform -- termed by the Israelis "the ticket out" of combat, while upon reaching the AMB they complained of difficulties with thoughts and feelings -- termed "the ticket in" to treatment. The Israelis concluded that severity of initial symptoms had little to do with prognosis for recovery; the most important indicator of a good prognosis was the soldier's labeling himself as healthy, taking initiative in his own care, helping others, and helping run the treatment team's area (Enoch et al. 1983).

A problem in the application of the doctrine of forward treatment during the war in Lebanon was the pressure for rearward evacuation at both the battalion aid station and the AMB. The battalion aid stations were moving frequently and as a result the battalion surgeons evacuated everyone they could, wounded or not, rearward. If evacuation was by helicopter, the casualties were flown directly back to

Israel, bypassing the AMB. Similar pressures for evacuation existed at the AMB. In one instance, a small group of psychiatric casualties at an AMB was "whisked away" by a medevac helicopter from the care of the division psychiatrist who was planning to hold them there for treatment. The IDF subsequently instituted several changes in policy. First, no helicopter pilot may accept an unwounded soldier on a medevac flight. Second, no unwounded soldier may be evacuated by either ground or air beyond the level of the AMB. Also, the Mental Health Department is conducting a series of lectures for battalion surgeons on the rationale for forward treatment of psychiatric casualties and the consequent need to interrupt rearward evacuation of these casualties. From this combination of changes in regulations and education of medical personnel, the IDF hopes that future psychiatric casualties will be held for forward treatment despite the pressure for rearward evacuation.

Outcome. For those soldiers diagnosed as psychiatric casualties and treated forward at the AMB, 75% were sent back to their units within 72 hours. Some failed to reach their units for administrative reasons, and a few relapsed, leaving a net 60% returned to duty. In contrast, for soldiers diagnosed as psychiatric casualties and treated in Israel proper, return to duty was only 40% (Noy, Solomon and Benbenishti 1983; Table 5). One rear treatment team was as successful as the average forward treatment team in returning soldiers to duty. This may show that the team's expectation to return casualties to duty is more important than simple proximity to the front. For both forward and rearward treatment, the IDF found the following factors predicted return: relative youth, being a combat soldier, and carrying a diagnosis of simple battle shock (Solomon and Noy 1983; Table 6).

The majority of psychiatric casualties occurred in combat soldiers early in the war. Six months after the beginning of the war, 100 of the 600 psychiatric casualties were still in ambulatory therapy. Of the 100, 25-30% were psychiatrically impaired to the degree that they were excused from any combat duties. Five had been discharged from the military.

Of the delayed psychiatric casualties, most were referred for outpatient psychotherapy. A few were referred to the rear treatment facility in northern Israel. Only 16% were returned to their units (Noy, Solomon and Ben-

benishti 1983; Table 5). These delayed psychiatric casualties were similar to those observed by the IDF in the 1973 war. The occurrence of delayed psychiatric casualties provides further evidence of the importance of comradeship and unit cohesion in maintaining soldier effectiveness not only before and during, but after battle as well.

Of the 600 soldiers evacuated as psychiatric casualties, 60 required further institutional treatment after 2-3 weeks of combined first and second echelon psychiatric care (Margalit et al. 1983; Table 7). Soldiers unresponsive to the brief initial treatment were sent to the Combat Fitness Retraining Unit (CFRU). The CFRU was located on the grounds of a sports institute in central Israel. The staff included psychiatrists, psychologists, social workers, and sports coaches who had worked with psychiatric casualties during and immediately after the 1973 war. The guiding idea of the CFRU was a combination of "walking and talking." The treatment program consisted of abreactive individual and group psychotherapy, individual and group sports, and combat-oriented military training. The mental health personnel and the sports coaches participated in both the psychotherapy and the physical activity. The 60 patients came about equally from regular and reserve units. The majority were from combat units. The average stay was 26 days. Only 5 patients (8%) received medication, in all cases tricyclic antidepressants. The CFRU was relatively successful. Of the regular service soldiers, 43% were returned to their units; of the reservists, 38% were returned to their units (Margalit et al. 1983a, Wozner et al., Margalit et al. 1983b, Goren et al. 1983, Nardi et al. 1983, Segal et al. 1983; Table 7). After completing treatment at the CFRU, none of the men required further institutional care, and some were well enough to return to combat duty in Lebanon.

The soldiers treated in the CFRU were given a variety of psychometric tests, including the Minnesota Multiphasic Personality Inventory (MMPI). Psychosocial histories were also taken. The test results and the psychosocial histories were given to six mental health officers who diagnosed the men with regard to psychiatric pathology. They were unaware that the histories and test results were from psychiatric casualties. These blind evaluators diagnosed 90% of the 60 soldiers as suffering from some form of character disorder (Segal et al. 1983). In contrast, the mental health officers at the front thought character disorders were present in only a small proportion of their battle shock cases (Noy, personal communica-

tion). This confirms the impression from other wars and armies that personality contributes little to the risk of breakdown in combat but substantially influences prognosis once breakdown has occurred. Thus, once they have become psychiatric casualties, soldiers with character pathology seem less likely to respond to brief forward treatment and therefore are overrepresented in the second and third echelons of treatment. A similarly poor prognosis was observed in soldiers with repressed personalities who suffered battle shock during the 1973 war (Noy 1978b).

Post-War Analyses

Breakdown Recurrence. The IDF studied the recurrence of battle shock in soldiers who had broken down in the 1973 war (Solomon, Oppenheimer and Noy 1983; Table 8). By June of 1982, the IDF still had 600 of these cases on record. Of these 600, 40% were combat ready by IDF criteria. By comparison, of a control group of 1973 veterans, 75% were combat-ready. Thus, by June of 1982, significantly fewer former psychiatric casualties were combat ready, implying vulnerability to life stresses or chronic disability. Of the former psychiatric casualties who were combat-ready (approximately 240), 200 fought in Lebanon. The recurrence rate for this group of psychiatric casualties was 1%. The recurrence rate in the control group of 1973 war veterans was 0.5%, and the overall occurrence rate for psychiatric casualties for Israeli reservists in Lebanon was 0.67%. Thus, there was no discernable difference in psychiatric breakdown rates in Lebanon between those soldiers who had suffered previous breakdowns during the 1973 War and those who had served in the 1973 War but had not broken down. The IDF concluded that if a soldier is fit for combat duty by normal military criteria, a previous history of battle shock does not place him at increased risk for future combat-related psychiatric breakdown.

Battlefield Factors. Throughout the history of modern warfare, psychiatric casualties have risen as a function of battle stress. Battle stress is typically measured by the number of casualties per combat day. In past wars, using this measure, the greater the battle stress, the greater the number of psychiatric casualties. The IDF studied this with more precision during the war in Lebanon by defining battle stress independent of physical casualties. The IDF chose 4 battalions for a retrospective study; these four battalions fought during the early stages of the war in

Lebanon (Noy, Solomon and Nardi 1983; Table 9). The after-action reports of the 4 battalions were given to six military mental health experts for review. Each was asked to rank the battles fought on the basis of preparation, type of battle, adequacy of support, enemy resistance, and commander's relation to higher command. The experts doing the ranking were not informed of the number of physical and psychiatric casualties each battalion had sustained during the battles in question. On the basis of the rankings, the battalions were then ordered by the overall amount of battle stress they endured. There was high inter-rater reliability among the experts, with five out of the six agreeing completely. Of interest is the IDF's inclusion among the components of battle stress the trust by the battalion commander in his higher command and the degree of pressure, justified or otherwise, that he perceived receiving from his higher headquarters. The overall ranking of the battalions in terms of the amount of battle stress was then compared to the actual number of physical and psychiatric casualties sustained. The battalion ranking on the basis of battle stress accurately predicted the ranking by the physical and psychiatric casualties, and predicted the ranking by the psychiatric:physical casualty ratios (Table 9). In spite of the small sample of units involved, the data reinforce the idea that casualty rates and battlefield stress are closely related and suggest that when stress is greater, the fraction of casualties which are psychiatric is larger.

Prewar Factors. The IDF found other factors correlated with psychiatric casualty susceptibility during the war in Lebanon (Solomon and Noy 1983; Table 10). One was age. Soldiers aged 18-21 appeared the least vulnerable, and soldiers aged 26-30 appeared the most vulnerable. Other factors correlated with psychiatric breakdown were poor education, low motivation, and low intelligence, being a reservist, being of low rank, and being from a support unit. To a degree these factors were interrelated. In the IDF, low education, motivation, and intelligence lead to assignment in a support unit, and in the older soldiers these factors are associated with low rank. Also, the control group for this study were the wounded. Since the IDF places its more intelligent and well-motivated soldiers in combat units where there is a higher probability of being wounded, it is likely that wounded soldiers as a group are above the IDF average for intelligence and motivation. Thus, the above findings, with the exception of those related to age, are provisional, pending comparison of the psychiatric casualties to a control group of

age, rank, and military occupation-matched unwounded soldiers.

Morale. Morale has been described as the secret weapon of the IDF (Gal 1983). Since its creation in 1948, the IDF has stressed the importance of morale in combat and the role of policy and practice in fostering it. The 1973 Arab-Israeli War raised the IDF's awareness of the psychological aspects of combat to an even higher level. This has resulted in the rapid development of the scientific appraisal of morale, leadership, and unit cohesion, and their relationship to combat effectiveness. Since the 1973 war, the IDF has deployed psychologists at the brigade and division levels to study these factors and to give practical advice to company, battalion, brigade, and division commanders on morale and the other psychological factors important in maintaining performance in combat. In principle, prior to combat, these psychologists measure morale on a company by company basis; and during combat, they accompany brigade and division commanders, providing advice on a variety of morale factors. In practice, as the criteria for selecting these battle psychologists are stringent, there are not enough of them to serve all combat units. Even when deployed, they do not systematically survey morale in all combat companies. Despite these limitations, the IDF has done interesting studies of morale and its relationship to other personal and unit factors as described below.

Company morale correlates significantly with personal morale. In the spring of 1981, a survey was conducted of the morale of 1200 IDF combat soldiers (Gal 1983; Table 11). The purpose of this survey was to identify the components of both personal and company morale. The components of personal morale were found to be trust in the company commander, confidence in one's own skills as a soldier, one's feelings about the legitimacy of the war, trust in one's weapons, trust in one's self, confidence in one's comrades' readiness to fight, the unit's cohesiveness, and the quality of one's relationship with one's commander. Although the correlations in Table 11 are not exceptionally high, the trends appear meaningful. The IDF has found that the component of trust in one's weapons has become an increasingly important factor in personal morale over the last 3 decades (Gal 1983). Also of interest is the impression of IDF psychologists that when belief in the legitimacy of war declines, as it did in soldiers fighting in Lebanon, overall morale can remain high if soldiers maintain trust in their commanders (Gal, personal communi-

cation).

Company and personal morale and readiness correlated with several other factors. In a study conducted on 1500 soldiers during the third week of the war in Lebanon (Spektor, personal communication), the IDF found current company morale and readiness, and current personal morale, significantly correlated with company functioning during combat, company morale during combat, trust in the commander, and self appraisal as a soldier. Negatively correlated with all of the above were dysfunctions caused by fear. Uncorrelated with the above were casualties among commanders, information before and during combat, talks with commanders, and appraisal of the enemy. Thus it would appear that companies with high unit and personal morale will show high levels of trust in their commanders, will fight well, and will be less easily suppressed by enemy fire. In contrast, casualties among commanders, information supplied by commanders, or fear of the enemy have little relation to morale, to effectiveness, or to liability to suppression.

Trust in the commander depends primarily on the competence of the commander, and only secondarily on his credibility and caring for soldiers. Using data obtained from 30 platoons (approximately 300 soldiers) during the third week of the war (Kalay 1983), the IDF has refined the concept of trust in the commander, dividing it into three components: belief in the professional competence of the commander, belief in the credibility of the commander, and the perception of how caring the commander is for his soldiers. All three components are important ingredients of trust in the commander in garrison. In combat, however, belief in the commander's professional competence becomes the primary ingredient of trust. The soldier's perception of the professional competence of his commander is complex. It includes both the perception of the commander's overall professional competence, and more specifically, the perception of the care with which the commander tailors the missions he receives from higher command to the particular strengths and weaknesses of the men under his command. Additionally, the personal example of the commander -- his demonstrated confidence in himself, his soldiers, and the unit's weapons -- were important components of commander competence and hence of overall trust. Also important in commander competence were good navigational skills, prior combat experience, and following the prescribed procedures in preparing for combat. In the war in Lebanon, the IDF found that of the three factors of trust in the commander

-- professional competence, credibility, and caring for soldiers -- perception of the commander's professional competence by the soldiers under his command correlated most highly with combat effectiveness. In general, the IDF has found morale an effective predictor of unit performance in combat.

The IDF used their morale measures to study the incidence of psychiatric casualties (Spektor, personal communication). Historically, in addition to battle stress, low morale, poor unit cohesion, and weak leadership have predicted psychiatric casualties in battle. The IDF found that company morale was negatively correlated with the incidence of psychiatric casualties (Gal, personal communication; Noy, personal communication; Spektor, personal communication). However, this study has a number of methodological difficulties. Specifically, psychiatric casualties were recorded on a battalion by battalion basis, while the morale measures (when available) were done on a company by company basis; and since, in any given battalion, there are three combat companies and one support company, morale measures, in addition to being unavailable for all the combat companies, are not available at all for the support companies. Thus, the study needs to be re-done once the psychiatric casualties are analyzed on a company by company basis. Within the limitations of the method outlined above, the preliminary results indicate that the higher the morale of a unit going into combat in Lebanon, the less likely the unit was to suffer psychiatric casualties. It can be inferred from the importance that the IDF attaches to morale in active service and reserve units that high morale correlates also with increased combat effectiveness. Further, in elite Israeli forces in Lebanon (commandos and other special units), psychiatric casualties were zero in spite of the intense battles in which they participated, a finding consistent with the experience of U.S. forces in WW II.

Despite high morale and a good deal of attention given by command to morale and the factors maintaining it, the IDF still suffered relatively high rates of psychiatric casualties during the war in Lebanon. This may be for the following reasons. Fighting in urban areas posed special problems for IDF soldiers. Battle shock cases often resulted from the surprise of receiving fire from civilians (including women and children). Also, the IDF may have evacuated to the rear soldiers who had quite normal fear reactions to combat. Finally, the war in Lebanon was so brief in its active phases that all soldiers may have in

effect been "short timers" and suffered from a form of "short timer's syndrome."

SUMMARY AND CONCLUSIONS

Psychiatric casualties were a significant source of manpower loss for the IDF in the 1973 Arab-Israeli War and in the 1982 war in Lebanon. In the 4 weeks of the 1973 Arab-Israeli War, the ratio of psychiatric casualties to wounded in action was approximately 30:100. In the 1982 war in Lebanon, from June through December, the ratio of psychiatric casualties to wounded was 23:100. The majority of psychiatric casualties were cases of battle shock (pure emotional reaction to the stress of battle), but some were diagnosed as mixed syndromes, involving, in addition to battle stress, a component of character disorder. In both wars, intense battle stress was the primary cause of battle shock. In both wars, battle shock cases emerged within hours of the beginning of hostilities, and were most prevalent where the battle was most intense. In both wars, symptoms were typically anxiety, depression, fear, and sleep disturbance. These were the symptoms that were typical of the battle shock observed in the allied armies in World War I, World II, and the Korean War.

In both the 1973 and 1982 wars, most battle shock casualties occurred in combat units. As a fraction of total unit casualties, however, battle shock cases were more common in support units and among reservists. In the 1973 war, low morale and high levels of civil stress appeared to predispose to breakdown as well. In the 1982 war, low intelligence, low motivation, and poor education also may emerge (pending further analysis) as predisposing to breakdown.

The 1973 war was the first war in which the IDF sustained significant numbers of psychiatric casualties. They had no doctrine for treatment. All battle shock casualties were evacuated to the rear; only a few returned to their units during the war; many became chronically disabled. Following the 1973 war, the IDF adopted the U.S. doctrine of forward treatment. Using forward treatment, the IDF was successful in sending 75% of soldiers back to duty within 72 hours. For administrative reasons some of these

soldiers never returned to their units, and a few soldiers relapsed. Overall, 60% of psychiatric casualties were returned to combat duty following forward treatment. In comparison to forward treatment, rearward treatment was significantly less effective, returning only 40% of soldiers to their units. This contrast in effectiveness between forward and rearward treatment is consistent with the U.S. experience in World War I, World War II, and the Korean War: if a psychiatric casualty is evacuated beyond the division he is much less likely to return. In addition to forward treatment, good prognostic factors during the war in Lebanon included the psychiatric casualties labeling themselves as healthy, taking initiative during treatment, being relatively young, being from a combat unit, and carrying a diagnosis of battle shock. Of the soldiers who became psychiatric casualties in the 1973 Arab-Israeli War, those who fought in Lebanon in 1982 were at no higher risk for developing battle shock than other IDF soldiers. Of the battle shock casualties in 1982 who received forward and/or rearward treatment and failed to recover following either form of brief treatment, 90% appeared to have an underlying character disorder. This supports the finding from the 1973 war that while no particular personality is at risk for breakdown, character disorders do affect prognosis for recovery once breakdown has occurred. Nevertheless, with further treatment focused on physical and mental rehabilitation, even soldiers with underlying character disorders showed improvement so that 40% returned to their units.

After the 1973 war, the IDF deployed battle psychologists to measure morale and to advise brigade and division commanders on the factors enhancing or diminishing morale. In the 1982 war in Lebanon, as in the 1973 war, the IDF found that high unit morale correlated with increased combat effectiveness and decreased psychiatric casualty rates. In the 1982 war, trust in the commander was a major component of morale. In combat, commander competence was the major component of the trust in the commander and correlated most highly with combat effectiveness. In general, units with high morale were more combat effective and were less likely to be suppressed by enemy fire.

Table 1

PHYSICAL CASUALTIES IN ISRAELI FORCES IN LEBANON
JUNE-DECEMBER 1982

Adapted from Dolev, personal communication

Wounded in action (WIA) 2600

80% evacuated beyond level of
medical battalion

Killed in action (KIA) 465

50% severe head injury
20% severe crush injury to body
5% for other reasons beyond help

Thus, approximately 75% were beyond help
even with the most vigorous medical
and surgical intervention

TABLE 2

**INCIDENCE OF PSYCHIATRIC CASUALTIES
(BATTLE SHOCK AND MIXED SYNDROMES)
IN ISRAELI FORCES IN LEBANON
JUNE-DECEMBER 1982**

**Adapted from Shipler 1983;
and Noy, personal communication**

Psychiatric casualties including wounded with psychiatric symptoms	600
Wounded in action (WIA) with no psychiatric symptoms	2600
Killed in action (KIA)	465
For the 1982 war in Lebanon, the ratio of psychiatric casualties (including wounded with psychiatric symptoms) to WIA	23:100
For the 1973 Arab-Israeli War, the ratio of psychiatric casualties (not including wounded with psychiatric symptoms) to WIA	30:100

TABLE 3

SYMPTOMS REPORTED BY PSYCHIATRIC CASUALTIES
IN ISRAELI FORCES IN LEBANON
JUNE-SEPTEMBER 1982

Adapted from Bar-On, Solomon, Noy and Nardi 1983

1.	Anxiety	56%
2.	Depressive affect	38%
3.5	Sleep disturbances	34%
3.5	Fear - diffuse, focused	34%
5.	Social estrangement, detachment	24%
6.	Conversion reactions	22%
7.	Crying	21%
8.5	Decreased appetite	19%
8.5	Headache	19%
11.	Exhaustion, fatigue	17%
11.	Psychomotor disturbances	17%
11.	Disturbing dreams, memories	17%
13.5	Tremors	13%
13.5	Confusion, concentration disturbances	13%
15.	Speech, communication impairment	12%
17.5	Dissociative states	11%
17.5	Irritability	11%
17.5	Explosive aggressive behavior	11%
17.5	Memory impairment	11%
20.	Noise sensitivity, startle	10%

TABLE 4

PSYCHIATRIC SYMPTOM CLUSTERS IN DIFFERENT WARS
BOTH U.S. AND ISRAELI

Adapted from Bar-On, Solomon, Noy and Nardi 1983

		U.S.		Israel	
	<u>WW I</u>	<u>WW II</u>	<u>V'NAM</u>	<u>1973</u>	<u>1982</u>
Anxiety		X		X	X
Depressive affect	X			X	X
Fear, diffuse/focused	X			X	X
Constricted affect			X		
Disturbing dreams		X		X	
Exhaustion, fatigue		X			
Decreased appetite		X			
Intestinal discomfort		X			
Headaches		X			
Startle reaction	X				
Sleep disturbance		X		X	X
Tremors	X				
Psychomotor changes	X			X	
Conversion reaction	X	X		X	X
Confusion	X				
Social detachment			X		X
Dissociation	X			X	
Antisocial			X		
Aggressive			X		
Substance abuse			X		

TABLE 5

RESULTS OF TREATMENT OF PSYCHIATRIC CASUALTIES
IN ISRAELI FORCES IN LEBANON
JUNE-SEPTEMBER 1982

Adapted from Noy, Solomon and Benbenishti 1983

(First number in each pair are total psychiatric casualties; numbers in () are pure battle shock casualties)

	<u>Returned to unit</u>	<u>Not Returned to unit</u>
<u>Forward treatment</u> (2-5 Km from the front; or on the border)		
Break occurred at the front	60% (66%)	40% (34%)
<u>Rearward treatment</u> (central and northern Israel)		
Break occurred at the front	40% (46%)	60% (54%)
Break occurred at home following demobilization or while on pass	16% (11%)	84% (89%)

By Chi Square on actual numbers, groups differ ($p \leq .0001$).

TABLE 6

**FACTORS CORRELATED WITH RETURN TO DUTY
FOLLOWING PSYCHIATRIC BREAKDOWN
IN ISRAELI FORCES IN LEBANON
JUNE-SEPTEMBER 1982**

Adapted from Noy and Solomon 1983

Factors positively correlated with return to duty:

Forward treatment

Younger

Being a combat soldier

Being diagnosed as suffering from battle shock

Factors showing no correlation with return to duty:

Pre-war medical history

Country of origin

Performance predictor score

Intelligence

Education

Motivation score (on induction)

Type of service (regular or reserve)

TABLE 7

COMBAT FITNESS RETRAINING UNIT (CFRU)
THIRD ECHELON OF TREATMENT
OF BATTLE SHOCK CASUALTIES IN
ISRAELI FORCES IN LEBANON
JUNE-SEPTEMBER 1982

Adapted from Margalit et al. 1983

60 patients (10% of total) were treated at the CFRU
Equally divided between reservists and regular soldiers
Most were from combat units
Stayed an average of 26 days
5 patients (8% of total) received tricyclic antidepressants
Regular service soldiers:
 43% returned to original unit
 57% reassigned to non-combat unit
Reservists:
 38% returned to original unit
 62% reassigned to non-combat unit
A number of soldiers went back to combat in Lebanon

TABLE 8

RECURRENCE OF BATTLE SHOCK IN
ISRAELI FORCES IN LEBANON
JUNE-SEPTEMBER 1982

After initial psychiatric breakdown in the 1973
Arab-Israeli War

Adapted from Solomon, Oppenheimer and Noy 1983

By June of 1982, battle shock cases from the 1973 Arab-Israeli War still on record	600
Combat ready by profile	40%
Recovered battle shock cases from 1973 serving in Lebanon	200
Recurrence of battle shock in Lebanon in battle shock cases from 1973	1%
By June 1982, of the control group of 1973 Arab-Israeli War veterans:	
Combat ready by profile	75%
Occurrence of battle shock in the control group of 1973 Arab-Israeli War veterans	0.5%
Overall risk of occurrence of battle shock for all Israeli reserve forces in Lebanon	0.67%

TABLE 9

**BATTLE STRESS AS A PREDICTOR OF BATTLE SHOCK
ISRAELI FORCES IN LEBANON
JUNE-SEPTEMBER 1982**

Adapted from Noy, Nardi and Solomon 1983

Based on the battles of 4 battalions
Battles were ranked on intensity of battle stress by the following factors:

Preparation (enemy location, mission, false alarms, training)
Battle (artillery, air attack, ambush, hostage, mine field)
Support (tactical, logistics, materiel)
Enemy resistance (strong, adequate, weak)
Trust by commander in the higher command (unjustified pressure, some pressure, adequate support)

Overall ranking of battle stress for each battalion (ranked 1-4 most to least difficult; rank given in 1st column) compared to psychiatric and physical casualties and the ratio of the two (expressed as number of psychiatric casualties per 100 physical casualties (KIA + WIA)). The overall ratio of psychiatric casualties to physical casualties (KIA + WIA) for the war in Lebanon was approximately 20:100.

	Physical Casualties (KIA + WIA)	Psychiatric Casualties	Ratio
1	36	31	86:100
2	23	9	39:100
3	10	1	10:100
4	12	0	00:100

TABLE 10

RATIO OF BATTLE SHOCK TO WOUNDED BY AGE
IN ISRAELI FORCES IN LEBANON
JUNE-SEPTEMBER 1982

Adapted from Solomon and Noy 1983

<u>AGE</u>	<u>Battle shock:wounded</u>
18-21	10:100
22-25	22:100
26-30	38:100
31-35	29:100
36-55	28:100

By Chi Square on actual numbers, groups differ ($p < .01$).

Other factors predicting breakdown (battle stress held constant; wounded soldiers as the control group):

Low education

Low motivation score (personality characteristics and attitude towards military service)

Low performance predictor score (intelligence, motivation, knowledge of Hebrew)

Reservist

Support unit

Low rank

TABLE 11
CORRELATIONS BETWEEN MORALE AND OTHER VARIABLES
IN ISRAELI FORCES
MAY 81

Adapted from Gal (1983)

Personal morale	.55	Perceived company's morale
	.32	Relations with commanders
	.36	Unit's cohesiveness
	.24	Trust in company commander
	.27	Comrades readiness to fight
	.28	Legitimacy of war
	.34	Trust in one's self
	.24	Trust in weapons
	.23	Personal competence
Perceived company morale	.55	Personal morale
	.47	Relations with commanders
	.41	Unit's cohesiveness
	.27	Trust in company commander
	.20	Comrades' readiness to fight
	.09	Legitimacy of war
	.21	Trust in one's self

N = 1200; all correlations are significant ($p < .05$)

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